PBL-OT-112G

Face Recognition Attendance System

SILVER OAK UNIVERSITY
EDUCATION TO INNOVATION

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INTRODUCTION

In this project face detection and face recognition is used. Face detection is used to locate the position of face region and face recognition is used for marking the understudy's attendance. The database of all the students in the class is stored and when the face of the individual student matches with one of the faces stored in the database then the attendance is recorded. Face Recognition is a biometric method of identifying an individual by comparing live capture or digital image data with the stored record for that person. Face Recognition Attendance System is marking of attendance based on this technology.

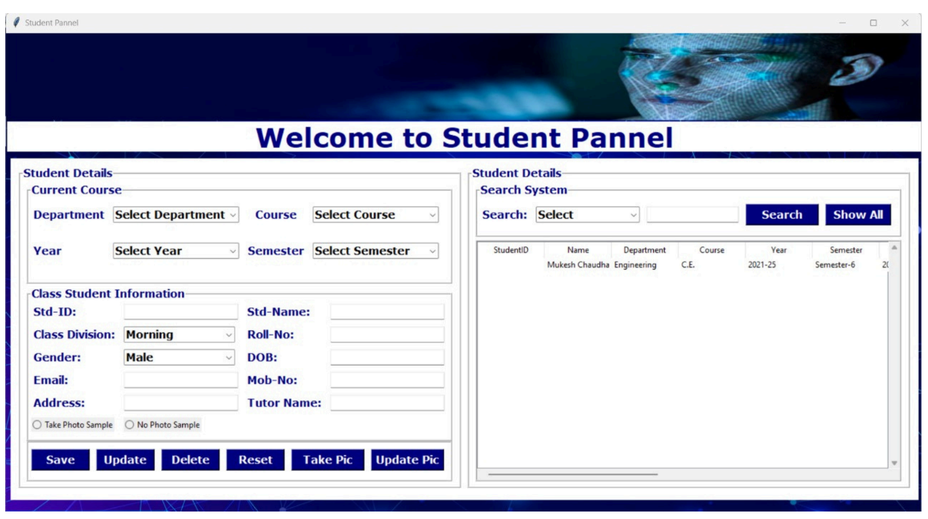
GOALS & OBJECTIVES

- Provides an automated attendance system that is practical, reliable and eliminate disturbance and time loss of traditional attendance systems.
- Present a system that can accurately evaluate student's performance depending on their recorded attendance rate.

TECHNOLOGIES/ LIBRARY USED

1. **Opencv-contrib-python:** OpenCV is a powerful library for computer vision tasks. The opencv-contrib-python package provides the Python bindings for OpenCV, allowing you to utilize its functionalities for image and video processing, including face detection.
2. **Numpy:** NumPy is a fundamental package for scientific computing with Python. It provides support for multidimensional arrays, matrices, and mathematical functions, making it essential for data manipulation and numerical computations.

SCREENSHOTS



SYSTEM FLOW , STATISTICS

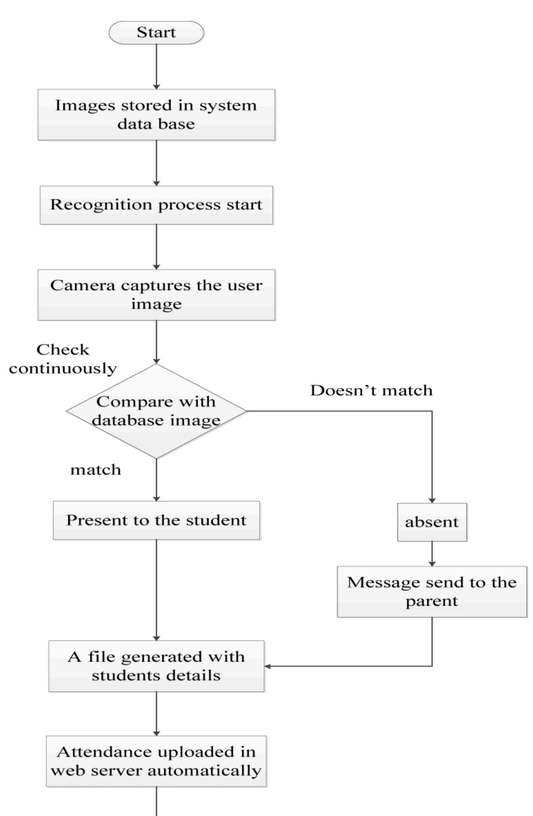


Fig.1 System Flow Diagram

Fig.2 Face Recognition Attendance System Market

IMPLEMENTATION

1.Facial Images Database:
A database containing facial images of all individuals whose attendance needs to be tracked. Each image should be properly labeled with the corresponding individual's identity.

2.Training Data for Face Detection and Recognition Models:
Training data is essential for developing and fine-tuning face detection and recognition models.

3.Pre-Trained Models:
Pre-trained models for face detection and recognition can provide a good starting point for implementation.

4.Attendance Records:
A database or spreadsheet to store attendance records is necessary to track attendance over time.

FUTURE SCOPE

1. **Enhanced Accuracy and Efficiency:** Future face detection systems will focus on improving accuracy and speed through advanced algorithms and increased computing power.
2. **Privacy Protection and Ethical Considerations:** There will be a heightened emphasis on protecting privacy and addressing ethical concerns surrounding facial data collection and usage.

CONCLUSION

The real-time processing capability of the face recognition system speeds up the attendance tracking process. Employees or students can quickly scan their faces, eliminating the need for manual check-ins and saving valuable time for both the management and the attendees.

REFERENCES

[1]. https://www.researchgate.net/